

The following listing of claims replaces all prior versions and listings of claims in the Application:

Listing of Claims:

Claims 1 - 17 (canceled)

Claim 18 (new) A method of injection molding or extruding a polymer composition using an apparatus that includes a screw adapted for being housed in a cylindrical barrel having a substantially constant inner diameter,

said polymer composition having a predetermined bulk density associated with particles, granules or pellets of said composition and a predetermined melt density when said polymer composition is fully melted and compressed,

said screw comprising:

a screw shaft defining a longitudinal axis and having a thread spirally positioned about the longitudinal axis of the shaft;

said spirally positioned thread defining a substantially constant outside diameter of the screw that is less than the inner diameter of the cylindrical barrel;

said spirally positioned thread defining a pitch along said screw shaft;

said screw shaft defining a root diameter that is less than the outside diameter of the screw;

said screw defining a feeding zone, a compression zone and a metering zone along its longitudinal axis;

said pitch of said spirally positioned thread and said root diameter of said screw shaft in said feeding zone and said metering zone defining a volume compression ratio;

said method comprising the steps of:

providing a screw wherein said pitch of said spirally positioned thread and said root diameter of said screw shaft in said feeding zone and said metering zone cause said volume compression ratio to be greater than or equal to the ratio of the predetermined melt density to the predetermined bulk density of the polymer composition and up to 1.25 X the ratio of the predetermined melt density to the predetermined bulk density of the polymer composition;

feeding particles, granules or pellets of said polymer composition into said feeding zone;

heating said polymer composition to a temperature sufficient to cause said particles, granules or pellets to melt;

rotating said screw with respect to said cylindrical barrel so as to cause said particles, granules or pellets to compress in said compression zone while melting and forcing said fully melted and compressed polymer composition to exit the metering zone.

Claim 19 (new) A method in accordance with Claim 18 wherein said volume compression ratio is greater than or equal to the ratio of the predetermined melt density to the predetermined bulk density of the polymer composition and up to 1.10 X the ratio of the predetermined melt density to the predetermined bulk density of the polymer composition.

Claim 20 (new) A method in accordance with Claim 18 wherein said volume compression ratio is equal to the ratio of the predetermined melt density to the predetermined bulk density of the polymer composition.

Claim 21 (new) A method in accordance with Claim 18 wherein the ratio of the predetermined melt density to the predetermined bulk density of the polymer composition is approximately 1.3.

Claim 22 (new) A method in accordance with Claim 18 wherein the ratio of the predetermined melt density to the predetermined bulk density of the polymer composition is approximately 1.4.